

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

ORDER NO. 85-120  
NPDES NO. CA0028886

WASTE DISCHARGE REQUIREMENTS FOR:

TRW MICROWAVE INC.,  
CITY OF SUNNYVALE  
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

1. TRW Microwave Inc., (hereinafter called the discharger) manufactures printed circuits at a facility located on 825 Steward Drive, Sunnyvale. By application dated May 23, 1985 the discharger has applied for issuance of waste discharge requirements and a permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES).
2. Studies by the discharger show that groundwater beneath the site has been contaminated by organic solvents such as trichloroethylene (TCE), 1,1,1, trichloroethane (TCA), perchloroethylene (PCE), xylene, ethylbenzene, and dichlorobenzene.
3. The discharger has installed five groundwater extraction wells to remove contaminants from the shallow groundwater. Approximately 80,000 gpd of extracted groundwater is treated by air stripping system and discharged to a storm drain tributary to Calabazas Creek and S. F. Bay.
4. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on July 21, 1982. The Basin Plan contains water quality objectives for Calabazas Creek and South San Francisco Bay and contains discharge prohibitions applicable to shallow water discharges in these areas.
5. The beneficial uses of Calabazas Creek and South San Francisco Bay are:

- . Non-contact water recreation
  - . Wildlife habitat
  - . Preservation of rare and endangered species
  - . Estuarine habitat
  - . Warm fresh water and cold fresh water habitat
  - . Fish spawning and migration
  - . Industrial service supply
  - . Shellfishing
  - . Navigation
  - . Open commercial and sport fishing
6. The effluent limit of 100 ppb for total synthetic volatile organic compounds is based on water quality considerations and best engineering judgment as to concentrations that can be reasonably attained by the application of the best treatment technology readily available at reasonable costs. Other effluent limitations of this Order are based on the Basin Plan, State Plan and policies, and best engineering judgment.
  7. The Basin Plan prohibits discharge of wastewater which has "particular characteristics of concern to beneficial uses" (a) "at any point in San Francisco Bay south of the Dumbarton Bridge" and (b) "at any point where the wastewater does not receive a minimum initial dilution of at least 10:1 or into any nontidal water, deadend slough, similar confined water, or any immediate tributary thereof."
  8. The Basin Plan allows for exceptions to the prohibitions referred to in Finding 7 above when it can be demonstrated that a net environmental benefit can be derived as a result of the discharge.
  9. Exceptions to the prohibitions referred to in Finding 7 are warranted because the discharge is an integral part of a program to cleanup contaminated groundwater and thereby produce an environmental benefit, and because receiving water concentrations are expected to be below levels that would effect beneficial uses.
  10. The Basin Plan prohibits discharge of "all conservative toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Board, to waters of the Basin." The discharger's groundwater extraction and treatment system and associated operation, maintenance, and monitoring plan constitutes an acceptable control program for minimizing the discharge of toxicants to waters of the State.

11. The issuance of waste discharge requirements for the discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.
12. The Board has notified the discharger and interested agencies and persons of its intent to issue waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
13. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Effluent Limitations

1. The discharge of waste containing constituents in excess of the following limits is prohibited:

<u>Constituent</u>	<u>Unit</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
Total Synthetic Organic Compounds*	mg/l	0.100	0.150

\* Defined as Trichloroethylene, Trichloroethane, Perchloroethene, 1,2 Dichloroethylene, Vinyl Chloride, Xylene, Ethyl Benzene, and Dichlorobenzene.

2. The pH of the discharge shall not exceed 8.5 nor be less than 6.5.
3. In any representative set of samples, the discharge of waste shall meet the following limit of quality:

TOXICITY:

The survival of test fishes in 96-hour bioassays of the effluent as discharged shall be a median of 90% survival and a 90 percentile value of not less than 70% survival.

### B. Receiving Water Limitations

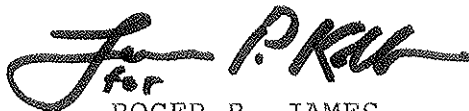
1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
  - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
  - b. Bottom deposits or aquatic growths;
  - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
  - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
  - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:
  - a. Dissolved oxygen: 5.0 mg/l minimum. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation.
  - b. pH: The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH levels by more than 0.5 units.
  - c. Un-ionized ammonia 0.025 mg/l Annual Median (as N) 0.400 mg/l Maximum
3. This discharge shall not cause a violation of any applicable water quality standard for receiving waters

adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

C. Provisions

1. The Discharger shall comply with all sections of this order immediately upon adoption.
2. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.
3. This Order includes all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977 except A.5, A.12, B.2, B.5, and C.2.
4. This Order expires October 16, 1989 and the discharger must file a report of Waste Discharge in accordance with Title 23, California Administrative Code, not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.
5. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control Act, or amendments thereto, and shall become effective at the end of ten days from date of hearing provided the Regional Administrator, U. S. Environmental Protection Agency, has no objection.
6. The discharger shall notify the Regional Board if any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit.

I, Roger B. James, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on October 16, 1985.

A handwritten signature in dark ink, appearing to read "For P. K. H.", with a stylized flourish.

ROGER B. JAMES  
Executive Officer

Attachments:

Standard Provisions & Reporting  
Requirements, April 1977  
Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM  
FOR

TRW Microwave Inc.

Sunnyvale, Santa Clara County

NPDES NO. CA 0028886

ORDER NO. 85-120





CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16.

The principal purposes of a monitoring program by a waste discharger, also referred to as self-monitoring program, are: (1) to document compliance with waste discharge requirements and prohibitions established by this Regional Board, (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of effluent or other limitations, discharger prohibitions national standards of performance, pretreatment and toxicity standards, and other standards, and (4) to prepare water and wastewater quality inventories.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the latest edition of Standard Methods for the Examination of Water and Wastewater prepared and published jointly by the American Public Health Association, American Water Works Association, and Water Pollution Control Federation, EPA Standard Methods 40 CFR Part 36, Vol. 40, No. 209 dated October 26, 1984, or other methods approved and specified by the Executive Officer of this Regional Board.

C. REPORTS TO BE FILED WITH THE REGIONAL BOARD

1. Violations of Requirements

In the event the discharger is unable to comply with the conditions of the waste discharge requirements and prohibitions due to:

- (a) maintenance work, power failures, or breakdown of waste treatment equipment, or
- (b) accidents caused by human error or negligence, or

(c) other causes such as acts of nature,

(d) poor operation or inadequate system design,

The discharger shall notify the Regional Board office by telephone as soon as he or his agents have knowledge of the incident and confirm this notification in writing within two weeks of the telephone notification. The written report shall include pertinent information explaining reasons for the noncompliance and shall indicate what steps were taken to prevent the problem from recurring.

The discharger shall file a written technical report at least 15 days prior to advertising for bid on any construction project which would cause or aggravate the discharge of waste in violation of requirements; said report shall describe the nature, costs and scheduling of all action necessary to preclude such discharge.

In addition, if the noncompliance caused by items (a), (b), (c) or (d) above is with respect to any of the effluent limits, the waste discharger shall promptly accelerate his monitoring program as required by the Board's Executive Officer for those constituents which have been violated. Such analysis shall continue until such time as the effluent limits have been attained, or until such time as the Executive Officer determines to be appropriate. The results of such monitoring shall be included in the regular Self-Monitoring Report.

## 2. Bypass Reports

Bypassing reporting shall be an integral part of regular monitoring program reporting. A report on bypassing of untreated waste or bypassing of any treatment units shall be made which will include cause, time and date, duration and estimated volume bypassed, method used in estimating volume, and persons and agencies notified. Notification to the Regional Board shall be made immediately by telephone (415-464-1255), followed by a written account within 15 days.

3. Self-Monitoring Reports

a. Reporting Period:

Written reports shall be filed regularly for each month by the thirtieth of the following month.

b. Letter of Transmittal

A letter transmitting self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period and actions taken or planned for correcting any requirement violation. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to this correspondence will be satisfactory.

Monitoring reports and the letter transmitting reports shall be signed by either a principal executive officer or his duly authorized employee. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true and correct.

c. Data Results:

- (1) Results from each required analysis and observation shall be submitted in the monthly self-monitoring report. Results shall also be submitted for any additional analyses performed by the discharger for parameters for which effluent limits have been established by the Board.
- (2) The report shall include a discussion of unexpected operational changes which could affect performance of the treatment system, such as flow fluctuations, maintenance shutdown, etc.
- (3) The report shall also include a table identifying by method number the analytical procedures used for analyses. Any special methods shall be identified and should have prior approval of the Board's Executive Officer.

- (4) Lab results should be copied and submitted as an appendix to the regular report.
- (5) A map shall accompany the report, showing sampling locations and flow path to receiving waters.
- (6) The report shall include an annual waste summary by month for the current year for each parameter of the attached Table I, showing the minimum, maximum, and average value for the month. The report for December shall include minimum, maximum and average for the year.

D. DESCRIPTION OF SAMPLING STATIONS

1. Description of Sampling Stations

a. INFLUENT

<u>Station</u>	<u>Description</u>
A-001	At a point in groundwater collection system immediately prior to treatment system.

b. EFFLUENT

<u>Station</u>	<u>Description</u>
E-001	At a point immediately after groundwater treatment system.

c. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
C-001	At a point in storm drain at least 100 yards but not more than 200 yards down stream from station E-001.

E. SCHEDULE OF SAMPLING AND ANALYSIS

The schedule of sampling and analysis shall be that given as Table I.

I, Roger B. James, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 85-120.
2. Is effective on the date shown below.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.

  
ROGER B. JAMES  
Executive Officer

Effective Date: October 16, 1985

Attachment: Table I

TABLE 1  
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A	E	C
TYPE OF SAMPLE	G	G	G
Flow Rate (mgd)	W	W	
BOD, 5-day, 20°C or COD (mg/l & kg/day)			
Chlorine Residual & Dos- age (mg/l & kg/day)			
Settleable Matter (ml/1-hr. & cu. ft./day)	Q	Q	
Total Suspended Matter (mg/l & kg/day)			
Oil and Grease (mg/l & kg/day)			
Coliform (Total or Fecal) (MPN/100 ml) per req't			
Fish Tox'y 96-hr. TL % Surv'l in undiluted waste	A	A	
Ammonia Nitrogen (mg/l & kg/day)	A	A	
Nitrate Nitrogen (mg/l & kg/day)			
Nitrite Nitrogen (mg/l & kg/day)			
Total Organic Nitrogen (mg/l & kg/day)			
Total Phosphate (mg/l & kg/day)			
Turbidity (Jackson Turbidity Unit)			
pH (units)	M	M	
Dissolved Oxygen (mg/l and % Saturation)	Q	Q	
Temperature (°C)	Q	Q	
Apparent Color (color units)			
Secchi Disc (inches)			
Sulfides(if DO <5.0 mg/l) Total & Dissolved (mg/l)			
Arsenic (mg/l & kg/day)			
Cadmium (mg/l & kg/day)			
Chromium, Total (mg/l & kg/day)			
Copper (mg/l & kg/day)			
Cyanide (mg/l & kg/day)			
Silver (mg/l & kg/day)			
Lead (mg/l & kg/day)			

TABLE 1 (continued)												
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS												
Sampling Station	A	E	C									
TYPE OF SAMPLE	G	G	G									
Mercury (mg/l & kg/day)												
Nickel (mg/l & kg/day)												
Zinc (mg/l & kg/day)												
Phenolic Compounds (mg/l & kg/day)												
All Applicable Standard Observations												
Bottom Sediment Analyses and Observations												
Tot. Ident. Chlari. Hydro- carbons (mg/l & kg/day) (1)												
Total Synthetic Volatile* Organics (mg/l)	(1) W/M	(2) M/Q	Q									

\* Analyze for EPA Method 601 (full scan)

#### LEGEND FOR TABLE

##### TYPES OF SAMPLES

C = grab sample  
 C-24 = composite sample - 24-hour  
 C-X = composite sample - X hours  
 (used when discharge does not  
 continue for 24-hour period)  
 Cont = continuous sampling  
 DI = depth-intergrated sample  
 BS = bottom sediment sample  
 O = observation

##### TYPES OF STATIONS

I = intake and/or water supply stations  
 A = treatment facility influent stations  
 E = waste effluent stations  
 C = receiving water stations  
 P = treatment facilities perimeter stations  
 L = basin and/or pond levee stations  
 B = bottom sediment stations  
 G = groundwater stations

##### FREQUENCY OF SAMPLING

E = each occurrence  
 H = once each hour  
 D = once each day  
 W = once each week  
 M = once each month  
 Y = once each year

2/H = twice per hour  
 2/W = 2 days per week  
 5/W = 5 days per week  
 2/M = 2 days per month  
 2/Y = once in March and  
 once in September  
 Q = quarterly, once in  
 March, June, Sept.  
 and December

2H = every 2 hours  
 2D = every 2 days  
 2W = every 2 weeks  
 3M = every 3 months  
 Cont = continuous

- (1) W/M = weekly for 2 months, monthly thereafter  
 (2) M/Q = monthly for six months, quarterly thereafter